INDUSTRIAL RELATIONS
SECTION
MAR 28 1939

"Liberty" Writer Explores New Era in Labor Relation Field

THE AIR LINE PILOT

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Pilot, Dispatchers, Carrier,-All Blamed in Point Reyes Crash

Air Safety Board Investigation Overlooks Nothing

The Air Safety Board has submitted a report to the Civil Aeronautics Authority on the loss of a United Air Lines Douglas transport off Point Reyes, California, on November 29 during a scheduled flight from Medford, Oregon, to Oakland. The plane carried four passengers and a crew of three, all of whom survived a forced landing on the open sea after the ship's gasoline supply had been exhausted, though only the first pilot and one passenger subsequently were rescued. The bodies of the second pilot, ALPA member Lloyd E. Jones, and one passenger were recovered from the waves, while the stewardess of the plane and two passengers are officially listed as "missing," though their death is generally assumed.

Basic responsibility for the accident is placed by the Air Safety Board's report on the bad judgment of both the first pilot, Captain Charles B. Stead, and two Oakland dispatchers (Thos. P. Van Sciever and Philip Stever Showalter) who cleared the ill-fated ship on its last flight.

Company Also Blamed

The operating company, itself, is blamed for not having in effect "established procedures adequate to meet the emergencies encountered on this flight." The report charges that prior to clearing the flight from Medford, the first pilot and the Oakland dispatcher failed "to give proper consideration to possible fuel requirements of the trip in view of adverse weather conditions as forecast by both Company and U. S. Weather Bureau meteorologists." It also says that the plane's fuel supply was not conserved in accordance with sound practice when the plane became overdue at its destination and conditions indicated that a state of emergency existed.

The report takes cognizance of testimony during the investigation that an airplane was heard over Crescent City, California, which is on the Pacific Coast and far off the course which Captain Stead was scheduled to fly, at a time when his ship was still in the air, but dismisses this evidence as lacking positive confirmation and as having no fundamental bearing on the flight's eventual outcome. It also discounts reports widely prevalent at the time of the accident that radio interference was a contributing factor to the disaster by showing that while Captain Stead encountered some difficulty on this score before he reached the vicinity of Oakland, he actually succeeded in establishing good contact with the Oakland radio range.

Fuel Supply Exhausted

In summarizing its investigation of the accident, the Air Safety Board gives the probable cause as "failure of the pilot to definitely establish the position of the aircraft through standard orientation procedure within a reasonable time after intersecting a leg of the Oakland radio range at 3:17

(Continued on Page 5, Col. 5)

AROUND THE CONFERENCE TABLE . . .

. . . Panagra employment contract conference in session, New York, February 28. Clockwise: Edward T. Paxton, Director, Industrial Statistics, Air Transport Association; Captain John H. Miller, Panagra pilot; Captain E. W. Gray, Panagra pilot and chairman of Council No. 38 (Miller and Gray travelled 3,531 miles from Lima, Peru, to New York, to attend this conference); Edward G. Hamilton, ALPA representative; Harold R. Harris, Vice President and Operations Manager, Panagra; J. D. MacGregor, Vice President and General Manager, Panagra; Douglas Campbell, Vice President, Panagra; David L. Behncke, President ALPA, and M. A. Glazebrook, assistant to the President, ALPA.

KNOTTY PROBLEMS FAIL TO DAMPEN CONTRACT EFFORTS

Conferences for the purpose of establishing an employment contract on the Panagra Airways System, which spreads itself over almost the entire western part of South America, began in New York at the home office of the company on January 25, 1939. The conferences continued daily with the exception of short recess periods, until March 1st, at which time they were adjourned to reconvene on March 13.

Progress Greatly Hampered

Unforeseen obstacles hampered somewhat the progress of these meetings, viz.: It had always been assumed that Pan American-Grace Airways was an individual corporation and managed entirely by its own official family. However, soon after these meetings began, it was evidenced that Pan American Airways and the Grace Steamship Line were parties in interest and their representative appeared to sit in on the conferences. The reason for this, as they explained it, was that any provisions agreed to in the Panagra employment contract would establish precedence for the entire Pan American system, if and when they were approached to make a working agreement. It was not surprising to have a Pan American official and Grace Steamship officials present because after all, Panagra is owned on a fifty-fifty basis by this company and the Grace Steamship line. In short, it was disclosed early in these conferences that the Pan-

(Continued on Page 8, Col. 2)

Lack Of Pilots Now Is Problem Of Air Service

By Wayne Thomis

Finding and training military flyers are the most important phases of the army's air corps expansion program, according to Maj. Gen. H. H. Arnold. Airplanes alone do not make an air force, and properly trained crews are more essential than the fighting craft they will fly.

By 1941, Gen. Arnold said today, the air corps under the present plan expects to have 4,663 flying officers on its rolls in contrast to the 2,245 pilots now on active duty. And the total of 18,184 enlisted men authorized for the air corps at this time is to be increased within the two years to 43,337 men.

"I have said many times and I cannot emphasize too strongly," said Gen. Arnold, "that airplanes alone, even of superior type, do not make an efficient air force. We must have pilots and mechanics.

"Our whole program has been predicted wisely and soundly on this formula. We have reserved enough funds to provide the men and the air bases to match our proposed increase in plane strength. No other program could be as sound, or would give us a well-rounded, well-balanced air defense."

Can't Train Enough Pilots

The army, however, is not prepared to train the number of pi-

(Continued on Page 5, Col. 4)

Earthquake Crisis On Panagra

During the emergency created by the recent Chilean earthquake disaster, the Civil Aeronautics Authority temporarily suspended its regulation requiring a seat for every airplane passenger in order that Pan American-Grace Airways might expedite the evacuation of women and children from the stricken areas around Chillan and Concepcion.

This action was taken immediately upon the receipt from the air line of a request that the regulation be waived for the period of the emergency. The only provision attached to the order was that the authorized gross load of the fourteen - passenger DC - 2 Douglases and other transports used by Pan American - Grace should not be exceeded.

28 Persons Carried

The effect of the order is to authorize the transportation of as many as 28 children and adults at a time in a plane normally carrying only fourteen passengers.

The Authority also voted a blanket authorization to the Chairman, Edward J. Noble, and the Administrator, Clinton M. Hester, to act along similar lines in any other comparable emergency that may arise without consulting all Members of the five-man organization.

All United States government departments, including the CAA, rendered every possible aid and co-operation to our South American neighbor republic Chile, during one of the worst earthquake disasters yet experienced, resulting in the death of thousands of people, and injury and untold suffering to others.

Mediation *versus* Extreme Methods

By David L. Behncke

The statement that a strike never did anyone any good is often heard. Without going into the merits and demerits of the value of strikes for settling industrial disputes, it is commonly conceded that the strike is usually a last resort method when negotiations have failed. Sound labor relations contemplate that earnest efforts be made by the parties to a dispute to settle their differences by conferences before the economic strength of any group of employees is exercised in a forceful effort to effect settlement. Unfortunately the public seldom hears about such conciliatory efforts, nor do they know a great deal about the inside story on both sides until the strike is actually called, resulting in the pent-up feelings of both parties being suddenly spread across the pages of the press, and even then the underlying details are often only half told.

Employers Dislike Both Mediation and Striking

It is a fact that all employers are against strikes for reasons that are obvious. It is, at the same time, surprising to learn how many employers are opposed to effective mediation and arbitration methods for settling grievances. Some meet with their employees or their duly designated representative more or less grudgingly, because they are compelled to under federal laws; others even defy these laws and refuse to meet under conditions that can be construed as an honest effort to get together; and, of course, there are also those who conduct their relations with their employees through the medium of properly designated representatives in the same honest spirit of purpose as they would handle any other of their many business problems.

Again Labor Must Lead the Way

Because of the fear that one side or the other will gain undue advantages, methods of arbitrating employer-employee grievances are approached with extreme caution both by employer and labor representative groups. But as is usually the case in matters of this kind, it has again fallen upon labor's shoulders to lead the warring factions out of the dilemma, viz:

The twenty-one recognized Railway Employee organizations, including the powerful brotherhoods, secured the enactment of the Railway Labor Act, on June 21st, 1934, which is commonly referred to and universally recognized as the finest mediation law yet spread on the Federal statutes.

The Purposes of the Railway Labor Act

(1) To avoid any interruption to commerce or to the operation of any carrier engaged therein.

(2) To forbid any limitation upon freedom of association among employees or any denial, as a condition of employment or otherwise, of the right of employees to join a labor organization.

(3) To provide for the complete independence of carriers and of employees in the matter of self-organization to carry out the purposes of this Act.

(4) To provide for the prompt and orderly settlement of all dis-

(Continued on Page 4, Col. 4)

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David L. Behncke ..... *Editor* *Fred A. Pruett* ..... *Asst. Editor*

289

"Public safety calls for pilots of high character and great skill. The occupation is a hazardous one. Therefore, the law should provide for a method to fix maximum flying hours, minimum pay and a system for retirement or annuity benefits."
—President Roosevelt.

To-Settle-Or-Not-To-Settle

The National Mediation Board's annual report has just been released. The following is a very interesting paragraph that has been extracted from this report and is printed verbatim herewith:

"Certain provisions of the Civil Aeronautics Act make it now necessary for airline carriers to comply with the provisions of the Railway Labor Act if they, in turn, are to enjoy certain benefits provided by the Civil Aeronautics Act," the report states. "The test of real labor relations statesmanship on the part of those in responsible charge of the airlines will be their ability to carry out the policies laid down by Congress in the Railway Labor Act without recourse to the processes of the Civil Aeronautics Act provided to bring about compliance with the Railway Labor Act. While some difficulty has been encountered on one airline, the Board hopes that no occasion may arise which will make it necessary to invoke the penalty provisions of the Civil Aeronautics Act to bring about proper observance of the Railway Labor Act by airlines."

This annual report goes on to state, among other things, that there were no strikes on air lines during 1938. This is a commendable record and the credit for not having strikes belongs to a certain extent to those in positions of leadership in air transportation. But a far greater amount of credit rightfully belongs to Title II of the Railway Labor Act, which was originated and sponsored by the Air Line Pilots Association.

The pilots and other air workers are thoroughly convinced that if this law is lived up to, both as to letter and spirit, there will never be a need for extreme measures in air transportation labor relations.

Probably the most important part of the law that applies the emergency brake on actions that may lead to strikes is contained in line 5 of the "General Purposes" paragraph of the Railway Labor Act, which reads: "To provide for the prompt and orderly SETTLEMENT of ALL disputes growing out of GRIEVANCES or out of the interpretation or application of agreements covering rates of pay, rules or working conditions."

There are three significant words in the foregoing, which are: SETTLEMENT, ALL, and GRIEVANCES. How can this act continue to prevent strikes? There is only one answer. Through the medium of properly constituted adjustment boards, whether they be Group, System, Regional, or National in nature, and such boards must continue to exercise the power that Congress allocated to them, which is to hear and to decide all grievances in the air transportation industry, and such decisions must be accepted and adhered to by all parties in a dispute. It can be no other way because it is self-evident and perfectly obvious, that any law that is designed to prevent extreme measures, must have the power to settle all disputes properly referable to its machinery, because a labor dispute unsettled is a smouldering fuse of the American workers' legitimate right to exercise their economic strength to protect themselves.

Shakespeare said, "To be, or not to be: that is the question . . ." The question in this situation is to settle or not to settle our differences according to the methods established by an enlightened age. The mandate of Congress, in the form of the Railway Labor Act, speaks out with unmistakable clearness—in the affirmative. *—David L. Behncke.*

D——N GLAD HE DIDN'T GIVE HER A HORSE

By WAYNE ALLISON
Council No. 19,
Ft. Worth, Texas

Recently "Skeet" Perkins purchased a bicycle for his wife. Not that Mary needed to reduce, but for some reason Skeet seemed to feel that it'd give her something to do. Well, it did, and Mary liked it so well she wouldn't let it out of her sight. In fact she insisted on keeping it (the bicycle) in their bedroom at night. All of which caused Skeet to shake his head and murmur:

"I'm damned glad I didn't give her a horse."

The Hunter Becomes the Hunted

Cowboy Willard (Captain Willard when on duty) donned his boots the other day, those that make the girls' hearts go flippety-a-flop, and with his big sombrero set out to conquer another heart. Now one more or less didn't mean much to Sherman for he took them all as a matter of course (Sherman's course) and paid them as much mind as most pilots do a little ice on the wings.

But alas! This one was different. You know how well laid plans often come to naught, the hunter becomes the hunted and the trifler becomes the trifled. The object of Sherman's affections did not behave in the expected manner, and, instead of Sherman making her heart go flippety-a-flop, she made Sherman's heart turn a-flip-flop. In fact Sherman went with his heart.

Confidentially, Sherman what will you take for that little mare? I understand the Memphis co-pilots know a pilot they'd like to introduce to her.

Pity the Poor Pilot

Yes, flying is very thrilling, romantic, and full of adventures. It is an over-paid occupation which only requires you to sit with chest expanded and a straight back, your nose in the sky and a far-away "God-Almighty here I come" look in your eye. At least that seems to be the popular conception.

But there are a few things the pilots (baggage and boiler boys included) must do and endure that tend to balance the scale.

Imagine the difficulty Lee Wallace and "Eager Pants" Curry had holding that far-away look in their eyes while just back of them in a screened-in box bearing the label "keep in a warm place" were ten thousand California beetles escaping at the rate of one hundred per. In fact, according to Lee, there were as many in the cockpit as in the box. And imagine the thrills those boys had on that seven hour and thirty-five minute, one-stop schedule, with the cockpit buzzing like a bee-hive in July.

Quoting Lee: "The damned beetles were nothing but large and hungry potato bugs that didn't seem to care whose potato they chewed on."

The Romance of Flying

Then imagine the romantic thoughts "Stormy" Mangham and I had on the same schedule with a little "lap hound," of the variety Clarence Harmon once described as "a cross between a fur muff and a chrysanthemum," that had been bred to be displeased with everything and taught to howl whenever displeased. When we took him out of the box and placed him on our laps to give

(Continued on Page 7, Col. 2)

The Story Of Ferdinand the Bull

By C. B. NORTHROP
Council No. 32, PCA
Washington, D. C.

We come now to the story of Ferdinand, the Bull, and we don't mean the flower sniffing sissy of the story books, but Captain Jimmy Franklin's "he-man, Hell-raising, fire-breathing, snorting pampas passion." Now this Ferdinand was just about as mean a stack of wandering filet mignons as could be found between here and Texas, but Jimmy loved him.

Jimmy loved him because he represented many hours of battling the elements, and still longer hours of chiseling trips from the poor, starving Reserve Pilot. But Jimmy loved him still more because he represented a four-legged insurance policy (providing that love and nature are to be trusted) against that day when Jimmy decides to turn honest and give up being a thorn in the side of a poor little struggling industry. By closing his eyes, our hero could see his thousand acre estate dotted with little bullsies and cowsies. "The lowing kine would come wending their way o'er the lea" or something, and to the tinkle of the cow bells and the cash register, our brave Captain would end life as God intended all pilots should, in preparing themselves for Heaven, namely, in the midst of comfort and plenty.

Misunderstood Ferdinand

But alas and alack, among other bad habits Ferdinand had was that of "going around poking people." He seemed to get along OK with the cows, but Jimmy just couldn't seem to understand Ferdinand's sense of humor when he would playfully romp up and run about six inches of nasty old horn into Jimmy's tail surfaces. Jimmy spoke to him several times in a nice way about this, but Ferdinand, feeling his oats (or whatever he feels) just laughed and walked away, but not before smilingly running another prong into Jimmy's starboard flipper.

Jimmy Franklin Rides Again!

Our hero is a patient man, but enough is sufficient, and if our spy's report is correct, Jimmy said to Ferdinand: "Come here, you wall-eyed fugitive from a butcher shop. I'll teach you to go around poking people." And with that, being a man of action, our Captain throws a bowline over the snozzle of Ferdinand and proceeds to tie him into more knots than are in a seniority list. About this time, old Doc Denut happens to be passing by, and says to Jimmy, "For two bucks, cash money, I will dehorn that thar brute." But Jimmy, thinking more of two bucks than a round trip at night to Chicago, continues to hurt Ferdinand's feelings by throwing noose after noose around his nose. All this time Ferdinand is bellowing and hollering like a gal in the back seat, but Jimmy doesn't pay any attention to him. With a hack-saw and a couple of axes, Jimmy goes to work and chops off Ferdinand's proud antlers.

Ferdie Bites the Dust

All this time old Ferdinand tosses and moans, and Jimmy says, "Shut up, you sexual son of

(Continued on Page 8, Col. 4)

"To fly West, my friend, is a flight we all must take for a final check."

In Constant Memoriam

Active

Accidental

Adams, John B.—U. A. L.
Anderson, Lloyd—U. A. L.
Andert, Paul A.—U. A. L.
Barron, John M., Jr.—A. A.
Bickford, L. A.—Panagra
Bigelow, Ed.—U. A. L.
Blom, Edwin W.—U. A. L.
Bogen, W. L.—W. A. E.
Bohnet, Frederick L.—T. W. A.
Bolton, Harvey F.—T. W. A.
Bontrager, C. M.—R. A. L.
Borchers, Adrian—P. A. A.
Bowen, J. E.—T. W. A.
Bowen, Lewis L.—B. A.
Brandon, James L.—U. A. L.
Briggs, Francis W.—A. A.
Broughton, D. E.—U. A. L.
Brunk, Paul S.—P. A. A.
Bucher, Charles L.—P. A. A.
Chamberlain, Cassius B.—N. W.
Cohn, Hanley G.—W. A. S.
Cope, Alonzo—Marine Airways
Cox, Floyd—Ludington
Davis, Alfred W.—U. A. L.
Davis, Douglas—E. A. L.
DeCesare, Frank—Panagra
De Cesaro, Joseph G.—U. A. L.
Dietz, Stuart G.—E. A. L.
Dixon, Andrew, Jr.—D. A. L.
Dunn, Stephen—Panagra
Fields, Glenn T.—A. A.
Fuller, Ray E.—A. A.
George, Hal—T. W. A.
Grover, R. Boyd—U. A. L.
Haid, Arthur A.—N. W.
Hale, S. H.—E. A. L.
Hallgren, W. A.—A. A.
Hill, George W.—A. A.
Holbrook, Clyde M.—A. A.
Holsenbeck, W. M.—P. A. A.
Jamieson, W. L.—E. A. L.
Jones, Lloyd E.—U. A. L.
Kelsey, Harold J.—A. A.
Kincanon, Ted N.—A. A.
Komdat, Albert C.—E. A. L.
Lewis, Harry C.—T. W. A.
Livermore, Joe—N. W.
Lucas, Al—W. A. S.
Lucas, Verne—Ludington
Lynn, John B.—C. & S. A. L.
McMickle, Harold—Panagra
Malick, Forrest E.—U. A. L.
Mamer, Nick B.—N. W.
Marshall, Gerald V.—A. A.
Merrifield, Austin S.—U. A. L.
Montee, Ralph—T. W. A.
Montijo, John G.—V. A. T.
Morgan, Howard R.—T. W. A.
Mossman, Russell C.—C.&S.A.L.
Neff, Harold—U. A. L.
Noe, Earl J.—T. W. A.
Norby, Raymond B.—N. W.
Odell, M. T.—A. A.
Owens, Clifford P.—W. A. E.
Paschal, A.—P. A. A.
Potter, Norman W.—U. A. L.
Pursley, C. H.—Panagra
Radoll, R. W.—U. A. L.
Riggs, Russell S.—A. A.
Robbins, Wm. J. B.—A. A.
Rousch, Chas. W.—N. W.
Rust, F. H.—A. A.
Salisbury, Hervey M.—T. W. A.
Sandblom, J. V.—C. P.
Sauceda, J. M.—P. A. A.
Sharpnack, J. W.—U. A. L.
Sheets, Don K.—Panagra
Sherwood, George C.—W. A. E.
Supple, Robert E.—Panagra
Tarrant, Harold R.—U. A. L.
Terletzky, Leo—P. A. A.
Thompson, A. R.—U. A. L.
Underwood, Sanford L.—A. A.
Vance, Claire K.—U. A. L.
Waldron, Joe—A. A.
Walker, M. A.—P. A. A.
Wallace, Clyde W.—T. W. A.
Weatherdon, Edwin—A. A.
West, F. W.—N. W.
Wieselmayer, Otto—P. A. A.
Williamson, P. B.—E. A. L.
Worthen, John A.—W. W.
Zeier, Carl F.—C. & S. A. L.

Natural

Cochrane, Robert M.—U. A. L.
Fife, John A.—C. A.
Hohag, R. J.—N. W.
McConaughey, Ira M.—A. A.
Phelps, Henry T.—P. A. A.
Swanson, Axel—A. A.

Inactive

Barr, Julius
Burford, Dean W.
Caldwell, G. Q.
Drayton, Chas. M.
Noyes, Dewey L.
Ornsbee, F.
Shelton, Boyd M.
Stark, Howard C.
Veblen, E. H.
Wheaton, Harold H.
Whittemore, Fred W.
Willey, Sidney L.

Waiting List

Brock, Wm. S.
Kiser, Daniel

Unemployed

Darby, James E.
Downs, Lloyd
Hays, George L.
Keadle, Floyd E.
Rhiner, L. H.

Honorary

Rogers, Will

Behncke Pleads for Adequate Mediation Board Appropriation

(Recent statement of David L. Behncke, President, Air Line Pilots Association, testifying before the Appropriations Committee of the House, Relative to Adequate Appropriations for the National Mediation Board.)

The National Mediation Board was created by the Railway Labor Act which was enacted into law May 20, 1926. The Board is made up of three members assisted by five mediators, whose duty when the law was first passed was to mediate the innumerable differences between the Railroad companies and the Railroad employees. When it is taken into consideration that the Railroads have approximately 1,200,000 employees, it can easily be realized that this is no small task. This act was amended April 10, 1936, by the Black-Mead bill, which is cited as Title II of the Railway Labor Act. This amendment brought the air line pilots and all other air transportation workers, numbers approximately ten thousand, under the jurisdiction of the Federal Mediation Board. This caused a great added burden to be placed on this board, which now has to take care of the troubles of all the air line pilots and other air workers in addition to all those of the Railway workers.

Mediation Board Handicapped By Fund Shortage

The Federal Mediation Board originally had only five mediators assisting them and this number has not been increased irrespective of the fact that they have been given, in addition to all the employer-employee troubles on the railroads, the employer-employee troubles of the entire air industry to take care of. The pilots and other air workers have been under the act two years and nine months and the aid that the air workers have been able to obtain from this board has been extremely limited and totally inadequate. The reason advanced by the members of the Federal Mediation Board, and we are inclined to agree, is that they have been severely hampered by lack of appropriations, making it impossible for them to hire the necessary help, such as additional mediators and clerical help, to handle promptly and properly all the work they are called on to do. It is our understanding that they are having a hard time keeping abreast of their Railway Employee-Employer mediation duties and as far as the air transportation industry is concerned, we have been unable to get but very little assistance with the great amount of work that must be done and done promptly to maintain the right kind of labor relations in the air transportation industry. As a matter of fact some of our grievance cases are more than a year old. Pilots are licensed by the United States Government and the strictest possible supervision is constantly maintained over them by the Federal Civil Aeronautics Authority, the medical profession, and their air carriers. All these requirements must be renewed at six-month intervals or less, and if the grievance cases arising from unfair discharges, etc., are not settled within this period, the pilots lose their licenses and at the same time their ability to make a living and properly provide for their families. In addition, every time a pilot loses his license, the Government suffers a tremendous loss to national defense because a highly trained pilot, such as the air line pilot, has a national defense value to the Government that runs into many thousands of dollars.

Inter-State Commerce Endangered

The prime purpose of the Railway Labor Act, including Title II, is to prevent interruption to interstate commerce and unless the Federal Mediation Board obtains sufficient appropriations to carry on their work properly there can be no guaranteed assurance that inter-state commerce will not be interrupted, because if the Railway workers and air workers cannot obtain relief as to the settlement of their differences through the efforts of the National Mediation Board, then they must resort to the only weapon left available to them in deadlocked cases, which is to strike. Certainly the air workers nor any one else wish to strike and, therefore, it is necessary for the Mediation Board to have at least a reasonable amount of money with which to carry on their very important task. The normal and uninterrupted flow of inter-state commerce including air passenger traffic and the prompt deliverance of air mail, air express and other important air cargo, is of vital importance to the nation and cannot be stopped without causing immediate and needless inconvenience and suffering on the part of the citizens of the nation.

One Mediator to Aviation Industry

Summarizing, the air line pilots' request in this matter, is we believe, extremely reasonable because all that we are asking is that, in addition to giving the Mediation Board sufficient funds to mediate properly and promptly the troubles of the Railway employees, we feel that sufficient funds should be given the Board to enable them to hire at least one additional mediator to be assigned exclusively to the air transportation industry.

We are certain that there is more work than one mediator can handle properly but unless we have at least one, the Railway Labor Act is, to a large extent, meaningless as far as the air line pilots and other air workers are concerned, and no matter how hard the legitimate unions in this industry try to keep industrial peace, it is very problematical as to whether or not they will be able to succeed. The cost of maintaining one additional mediator for Air Transportation, including salary, traveling and other expenses, should not exceed $20,000 annually.

Bad, and Becoming Worse

If this amount is added to the Federal Mediation Board appropriations for the employment of a mediator in the air transportation industry, it will result in the alleviation of an extremely unsatisfactory condition that now exists and is rapidly becoming worse. No matter what the appropriation committee or Congress decides to do relative to this question, the air line pilots and the thousands of other air workers firmly believe that the Mediation Board should be definitely requested to assign at least one mediator exclusively to the air transportation industry.

Thank you for listening to us and anything that you may be able to do, we will deeply appreciate.

CAA TO FIGHT OVERHEAD POWER LINES

The old saw, "I knew it was an airport when I saw the high tension wires," may soon be a thing of the past as a result of a conference the Civil Aeronautics Authority called on January 26.

Representatives of the Authority and other agencies of the Federal government discussed the growing necessity for co-ordination in planning such installations, with a view toward eliminating the danger represented by overhead power lines in the vicinity of airports and radio range stations.

The Authority is attempting to determine the extent to which other Federal agencies are engaged in such construction, and hopes to establish ways and means by which such agencies and the Authority may co-operate to the advantage and satisfaction of everyone concerned, thereby assuring constructive expenditure of Federal funds and reducing the hazards to air commerce.

Mechanic Training Is Big Problem

(Written by C. S. Jones at Suggestion of Richard Aldworth.)

Comparatively few people realize that it takes as long to train a competent mechanic as it does to train an emergency pilot. During the World War it was not uncommon for an American pilot to spend two months in ground school, a couple of months in primary training school and another two months in an advanced school, and then be sent to the front. Many European pilots saw service at the front in even less time than this, and it would be impossible to give any sort of mechanical training worthy of the name in a like period.

It is appreciated that under present conditions with faster and more complicated airplanes, the training of pilots would take somewhat longer, but it is felt that with a year's training similar to that now given in our military services, a pilot could be trained who would do creditable work in time of emergency. The fact that the modern airplane is far more complicated necessitates even a more careful training for the mechanics than was necessary during the War, when ships were extremely simple. Therefore, there is every indication that the training period for skilled mechanical help must take considerably longer than for a pilot.

Great Demand for Mechanics

Therefore, from the viewpoint of adequate national defense, serious thought must be given to creating a supply of properly trained mechanics. In this connection some figures will be of interest. At the present, according to the C. A. A. statistics, there are approximately 20,000 pilot certificates and 38,000 active student permits. There are approximately 9,600 mechanic certificates, and these relative numbers indicate to an extent the difference in appeal to the average youth of flying and of mechanical work.

When a young man thinks of aviation as a future, his first thought as a rule, is of flying, and while his chance for ultimate success may be greater in the mechanical lines, there is an appeal to flying that outweighs anything else. The average mechanic is of as much value to the success of aviation as the pilot, but unfortunately comparatively little is known of the contribution that he makes to the success of aviation, so naturally the flying end receives the first call.

No Excess of Trained Men In U. S.

According to a recent estimate, there are about 5800 mechanics employed by the air lines, exclusive of dispatchers, traffic men, radio operators, meteorologists, etc. Some 36,000 mechanics are employed in the manufacturing industry including airplanes, engines, instruments, propellers, parts and accessories. Figure of Army and Navy personnel are not available, but they have barely enough skilled men to take care of their present equipment. When it is realized that one factory alone in Germany is reputed to employ 35,000 men, it will be realized that there is no excess of trained mechanics in this country, and certainly no reservoir of trained men.

Wright Brothers Were Mechanics First

In considering the problem, it is interesting to note where the existing personnel came from. In the very early days the pilots were mechanics rather than pilots. The Wright brothers and Glen Curtiss were mechanics first and pilots afterwards, and it was natural that they should attract to them men of a like caliber, and it is around this small group that our first mechanical personnel developed. During the War the government operated schools for training mechanics, and many of these men

(Continued on Page 5, Col. 3)

It Was 1938, And It DID Happen!

By JOHN O. STEWART
Council No. 5, UAL
Portland, Oregon

I was flying with Bert Ball at the time of our Point Reyes, California accident. We came out to the field at Salt Lake just before dawn to take our Trip 7 to Portland. The boys in the dispatch office were listening at a radio extension to the conversation between the aircraft and the various ground stations on the coast. The reception was perfect. Because of this fact it did not seem real. I told myself that this was 1938, and these things just can't happen. Yet the conversation went on for over an hour. Various men left the ear phones and came back. I had breakfast and signed the flight plan and caught up with the conversation. Finally, the ship sat down and there was no more conversation. Bert and I flew to Pendleton, Oregon, before we knew the outcome.

O'Brien to Get Answers

The initial mistake seems to be a combination of a squeezed range, the 90° system and a 180° reversal of wind, which any Link trainer operator can show is packed with danger. The questions that rise from here I cannot afford to discuss, first, because I do not know the answers, and second, it is not my job. This job has been given to J. J. O'Brien, late of the OASL division, who now is Superintendent of everything between Salt Lake, Spokane, Vancouver and Oakland. Grover Tyler and Walter "Doc" Eefsen return to the line as pilots. Other changes not so closely concerned with Portland: R. D. Petty becomes Assistant Superintendent from Oakland-Cheyenne and Denver, and John MacHodgson becomes Superintendent of dispatch at Oakland.

What's What on the R. A. Ranges

The new R. A. ranges have all been in operation now for some time and other than making the change over during relatively bad weather and a few qualms over the critical beams and flatter cones, I think all the pilots like them. When you consider the cost of installation of an R. A. outfit you may wonder why it was done. The answer, given to me by a C. A. A. man in Salt Lake, is theoretical, but worth repeating. The radiation from an antenna is at a right angle to the direction of the wire. With the loop, the radiation went up as well as out horizontally. When the wave that went up, reflected from the heaviside layer, it came down and supplemented the horizontal wave. Now, at times, due to the irregularity of this reflecting laver it would pack one of the quadrants and not the other, causing the leg to swing or lay over (I am getting so I write like Sheridan already), and so the horizontal portion of the loop was removed which resulted in the vertical tower. The new R. A. ranges may bend a little going across the "funny old hills" but they are pretty steady.

8,000 Feet of Dream

The new Boise, Idaho, field has been opened and we are operating into Boise with Mainliners now. This airport is a dream, no less. The main runway is 8,000 feet long and the closest obstructions above the sage grass are the range towers over a mile away. You can cross the end of the runway with 500 feet, land a DC-3 and still have enough runway to take off on when you stop rolling—this with no wind. The Boise Chamber of Commerce had a big celebration planned for the opening of this airport and they looked forward to it for three weeks. When the opening day came the valley was socked in tighter than a drum, so the celebration had to be delayed a couple of months.

Portland has completed two runways on their new field north of town on the Columbia River flats. We operate out there occa-

(Continued on Page 8, Col. 1)

Mechanics Ass'n Fixes Strike Date

By A. P. Martin

Culminating their halting efforts with a deliberate refusal to arbitrate, and voiding thereby every effort of the Air Line Mechanics Association, International, and the offices of the National Mediation Board, to arrive at a harmonious settlement, Eastern Air Lines has set the stage for the second system-wide walkout in the air transport industry. Ballots held by the Association indicate a unanimous strike vote rendered by the affected personnel. April 14 has been set as the date for the walkout, this date being the required 30 days following the termination of mediatory efforts by the National Mediation Board, the governmental agency established under the provisions of the Railway Labor Act, to handle all disputes arising in the industry over which an amicable settlement could not be reached.

A Company Union Interferes

The maintenance mechanics employed with Eastern Air Lines and represented by the Air Line Mechanics Association, International, submitted a wage and hour proposal to Captain E. V. Rickenbacker, President of Eastern Air Lines, during October, 1937. An early date was sought on which to confer the proposed agreement, but during the numerous delays in attempting to negotiate in accordance with the intent of the law, a company union, the Eastern Air Lines Employees' Association, sprang up and protested the representation rights of the ALMA. This culminated in an election held under the auspices of the National Mediation Board during the early part of December, 1937, in which the Air Line Mechanics Association emerged victorious. This election followed closely on the heels of a layoff of 34 men, alleged by the Association as having occurred in an effort to break down the morale of the employees prior to the election and to weaken the strength of the Association due to the fact the furloughed employees were, predominately in numbers, ALMA members.

Restraining Injunction Thrown Out

Negotiations on the employment contract followed the election but failed to effect an agreement that was acceptable to the employees involved, the company's offer being below the standards established by other contracts in effect between the Association and other air lines. Consequently, the services of the National Mediation Board were invoked, and during the early part of June and continuing to the latter part of October, the Board exercised its best efforts to bring the parties to an agreement. An interruption occurred to these proceedings during the latter part of August and early part of September, when the opponents of ALMA secured a temporary restraining order from a United States District Judge. The Association was successful in having this injunction thrown out of court, thereby making it possible for negotiations to be resumed.

A great many delays being encountered, the Association finally protested to the Civil Aeronautics Authority that the management was not complying with the labor provisions of the Civil Aeronautics Act which requires each air carrier to comply with provisions of the Railway Labor Act (as amended to cover the air transport industry). The Association, however, waived its rights to appear before the hearing relative to the issuance of Eastern Air Lines' certificate of necessity and convenience, a certificate required by the CAA in order to operate as an air carrier, because of certain investigations in progress by governmental agencies in respect to non-compliance with the Railway Labor Act.

(Continued on Page 8, Col. 3)

DR. R. A. McFARLAND WRITES ON 'ALCOHOL AND THE AIRMAN'

(The following paper was written by Dr. Ross A. McFarland, under the auspices of Pan American Airways, and later abstracted by Dr. Ralph Green, internationally known authority on air medicine and Medical Director for Eastern Air Lines. This paper will appear in serial form in this and succeeding issues of The AIR LINE PILOT. It is apparent that a great deal of painstaking study and research has been put in on this, and The AIR LINE PILOT is grateful for the privilege of publishing this material for the highly educational value it possesses on the effects of alcohol on the human organism, and the relationship of these effects to the effects of oxygen starvation caused by altitude flying.)

FOREWORD

Material for this article has been abstracted from a report entitled "ALCOHOL AND THE AIRMAN," prepared for the flight personnel of Pan American Airways by Doctor Ross A. McFarland of the Harvard Fatigue Laboratory, Boston, Massachusetts.

An attempt has been made to eliminate as far as possible technical terms which might confuse the non-medical reader. For purpose of brevity, many interesting tables and graphic illustrations have been eliminated. The salient facts demonstrated by the graphs have, however, been retained in this abstract.

The names of scientific investigators have, for the purpose of brevity, also been eliminated. The original text contains a complete bibliography. Those who are interested in reading the many references are referred to the original text and especially to pages 60 and 61 which contain the bibliography. Here and there in the abstract will be found statements in parentheses which are not statements of Doctor McFarland but are from the abstractor. These statements have been carefully prepared in an effort to further certain findings and are not intended to modify the original thought of the author, Doctor McFarland.

The article "ALCOHOL AND THE AIRMAN" is regarded as the best and most conservative statement of the known effects of alcohol upon the human body.

The Medical Department of Eastern Air Lines, Inc. wishes to express to Doctor McFarland sincere appreciation for the courtesy of permitting us to reproduce, in modified form, his valuable contribution.

Eastern Air Lines, Inc.
Medical Department
Ralph Greene, M. D.
Medical Director.

* * *

The object of this communication is to analyze the effects of alcohol on the human organism from an unprejudiced point of view. An attempt has been made to digest the scientific literature and to state only the opinions from competent and unbiased investigators.

What Is Alcohol?

Since so much discussion has centered in the meaning of such words as "alcohol," "food," "drug," and "metabolism," it might be well to define first of all the meaning of certain terms which will be used in this abstract of reliable statements. The chemist applies the term alcohol to any substance having a certain type of chemical constitution. Here we are concerned with what the chemist refers to as "ethyl alcohol," the ingredient which accounts for the properties of various beverages known as "alcoholic drinks" which cause intoxication. The alcohol in these liquors is in all cases produced by the fermenting action of yeast upon sugar. The sugar may be that which naturally occurs in the juices of fruits, as when wine is obtained by the fermentation of the juice of grapes, or cider from that of apples. When barley is malted, a ferment is produced which, in the process of brewing, converts the starch of the grain into malt sugar and from this the alcohol of beer is produced by fermentation with yeast. The fermentation produces many other substances besides ethyl alcohol though in much smaller proportions. Some of these are higher alcohols which are toxic or poisonous, despite their small amounts. Some of these substances, present in new wines, or raw whiskey, are slowly abstracted during the ageing process. The flavor is improved and the poisonous qualities lessened thereby. Ethyl alcohol and the majority of other substances in fermented liquors boil at a lower temperature than water and are said to be more "volatile" or to be more easily vaporized. If a fermented liquor is boiled down, the ethyl alcohol and other volatile substances evaporate more readily than the water. When the vapour produced during the earlier part of the evaporation is condensed in a still, a fluid is obtained containing a much higher proportion of ethyl alcohol than the original liquor, with different but always very small proportions of the volatile constituents. This was the old-fashioned method of obtaining "distilled spirits" which resembled one another in the high proportion of ethyl alcohol and differed from one another in the nature and proportion of other volatile substances present in addition to water. Thus true brandy owes its characteristic flavor to other volatile constituents of wine, true whiskey to those formed in the fermentation of molasses, etc. The modern scientific apparatus known as the "patent still" makes possible a much cleaner separation of the products of distillation. Tradition regards the aged liquors matured in casks as more wholesome than the crude new product and probably they are so, but these matters are bound up with a good deal of convention and superstition and the amount of ethyl alcohol is not diminished by such ageing or the inebriating action less potent or permanently harmful if taken in excess. It is safe to assume that ethyl alcohol is by far the most important constituent of alcoholic liquors and is responsible for practically the whole of the action on the body which distinguishes these drinks from non-alcoholic ones. Without serious inaccuracy one may use the simple term **alcohol** when speaking of ethyl alcohol whether it is taken as the chemically pure substance diluted in water or in more complex fluids such as beer, wine, brandy, etc.

What Is Food?

The question of whether alcohol is a food is exceedingly complex and, before arriving at a point of view, an attempt must be made to define the word "food." Anyone will agree that a food is something which we eat or drink which is useful for the normal life of the body and its constituent parts. Substances like water and salt are not considered as foods by the average layman because they do not satisfy his hunger. With this the physiologist will agree because water and salt, although used, are not altered by the body. Water evaporates from the lungs and skin, and both salts and water are lost in the urine and sweat. On the other hand, a substance such as sugar which everyone recognizes as a food disappears in the body as completely as though thrown into a fire and burned. In both cases it combines with oxygen, heat is evolved, energy may be produced, and the substances resulting are carbonic acid gas and water. Both processes are spoken of as "oxidation" or burning.

The analogy of the engine is relevant in comparing the burning of a combustible substance like sugar in air and the oxidation which it undergoes in the body. Everyone is familiar with the fact that the heat generated by burning such a substance can be made to do work with the appropriate engine. In mechanical terms part of the "energy" liberated when a substance is burned can be transformed into mechanical work but some is dissipated in the form of heat. The body, like the engine, uses the liberated energy partly for mechanical work in the muscles and by the heart in driving, and partly for maintaining the normal temperature of the body. All substances we recognize as foods, therefore, supply heat and power and may be considered as fuel which the body can use as a source of energy. True foods (carbohydrates including starches and sugars, fats and proteins) are broken down by the body during digestion into simple soluble substances. They serve not only as fuel for the body's immediate requirements of energy, but also repair the natural waste of the living tissues and store them for future use. **Alcohol is a fuel food which is only available for immediate use. It cannot be stored for future use. In addition, alcohol has another property not found in true foods, namely, its drug effect. Since this characteristic predominates, alcohol is rarely considered as food.**

(Continued in next issue.)

SCIENTIST

DR. ROSS A. McFARLAND

Dr. McFarland, noted scientist, has, during the past few years, devoted the most of his time to the study of the relation between oxygen, starvation and man. He carried out experiments on pilot fitness and passenger comfort during trans-Andean and trans-Pacific flights on planes of the Pan American system and on transcontinental flights of United Air Lines planes. In 1935 he was a member of the International High Altitude Expedition to Chile, sponsored by the Harvard Fatigue Laboratory. During this expedition, ten scientists from various universities here and abroad spent four months in the Chilean Andes, studying the problems of acclimatization to high altitudes, the highest station being in the neighborhood of 20,000 feet. Through these investigations, he became interested in the effects of high altitude in commercial aviation. During 1936-37, he took part in an extensive investigation that was carried out on the effects of high altitude on the average air line passenger, sponsored by the Bureau of Air Commerce.

Dr. McFarland was an instructor in the department of psychology at Columbia University from 1928 until 1937, since which time he has been an assistant professor at Harvard University.

Though but 36 years old, he is the author of two monographs and forty scientific papers in the fields of psychology and physiology.

Mediation Versus Extreme Methods

(Continued from Page 1)

putes concerning rates of pay, rules, or working conditions.

(5) To provide for the prompt and orderly settlement of all disputes growing out of grievances or out of the interpretation or application of agreements covering rates of pay, rules or working conditions.

The Air Line Pilots Association quickly recognized the merits of this legislation, and, after a grueling fight, running through several years, persuaded Congress, in the face of much opposition, to amend the Railway Labor Act, April 10, 1936, to include every air pilot or other person who performs any work for any air carrier engaged in interstate or foreign commerce. The railroad and air transportation workers are the only employee groups that come under the Railway Labor Act, which is primarily a federal law, that, without taking away the rights of the employees to strike, provides for definite, final, and orderly methods for settling all grievances out of which strike difficulties might arise.

Won't Agree to Finality of Decision

Strange as it may seem, the Air Carrier Companies that so strongly oppose strikes, are at the same time opposing the methods established in the Railway Labor Act for settling disputes. Their arguments are the usual ones common in situations of this kind, and, for the most part, run to the ends of interfering with their so-called "managerial discretion." In other words, they are not willing to settle their differences by fair methods up to, and including finality of decision, thereby resolving the grievance or grievances causing dispute. They are willing to go through the motions, but are not willing that such deliberations shall be final and binding on both parties, all of which makes the entire procedure ineffectual in settling the differences that cause extreme action such as a strike.

An interesting and extremely educational article appeared on the subject of ending the need for strikes by arbitration methods, in the January 28th issue of the Liberty magazine, under the title of "A New Way To End Strikes," written by Will Irvin. With Liberty's permission, we are reprinting this article for its educational value on this very important subject, the details of which are little known and even less appreciated by those who never fail to clamor against extreme methods, but at the same time fail to produce a solution equally fair to both sides.

A NEW WAY TO END STRIKES

Last spring a large unionized factory in Pennsylvania promoted a mechanic to a job where he had some supervision over his fellows. When the time came to pay his union dues, Casey—as I shall call him—refused on the ground that he now rated as a foreman. The union disagreed with him — violently. The management stood by Casey. So there followed a strike which threw more than 2,000 men and women out of work. It went on for three weeks before Casey caved in and paid his dues.

Trivial? Yes; but many of the wild, costly strikes which followed the settlements of 1936 in the automobile industry sprang from causes no more important.

At almost the same time the same issue arose in a New York factory. Both sides were working up to a strike, when one or the other proposed a better way. Two days later the general manager of the company, the business agent of the union, and the employee in question were sitting round a table at the headquarters of the American Arbitration Association, with an eminent lawyer presiding as amateur judge. He spent a morning taking testimony, and rendered his decision next day. Both sides had agreed in advance to accept it. And no one stopped work. This proceeding cost each party to the controversy ten dollars and carfare. The Pennsylvania strike must have cost all concerned at least $100,000.

Once union labor foamed at the mouth when any one spoke of arbitration. But the recent sudden growth of unionism upheaved a multitude of minor disputes. Most of them did not come under jurisdiction of the National Labor Relations Board; and besides, proceedings before that body cost time and money. Many of them could not be brought into the courts. Aggrieved labor knew only one remedy — the strike. And various moderate yet progressive leaders of both A. F. of L. and C. I. O. unions began to look wistfully toward the American Arbitration Association.

Until 1920, arbitration, as a means of settling disputes, had no standing in American law; for the losing side could always refuse to accept the verdict and carry its case into court. The American Arbitration Association was formed to give this process legal sanction. In 1920 New York passed a law providing in effect that a decision in fair arbitration proceedings should stand as final and binding. Such a decision could not be appealed to the courts except for most obvious reasons, like proved corruption on the part of the arbitrator. A few states followed suit; and in 1925 Congress passed a federal law covering the whole country. When this happened, the Association was already transforming itself from a "pressure group" to a machine for the settlement of disputes in business.

All this, by the way, was largely a woman's job. Frances Kellor came into the picture at the period of the fight for a federal arbitration law. At a time when most other lawyers opposed arbitration, she saw its possibilities. Since then, eminent presidents of the association have come and gone, and "big names" such as Edward F. McGrady in labor and Owen D. Young in capital, have sprinkled the boards of directors. But, in both the period of agitation and that of fulfillment, Frances Kellor, as managing director, sat quietly in the background — the mainspring.

Business took at once to this method. There were many advantages. No law's delay. Scattered over the country were more than eight thousand citizens who had agreed to serve without pay as arbitrators—lawyers, college professors, chartered accountants, and experts on every imaginable sort of business. The method of choosing arbitrators, varying from time to time, settled down finally to this: The Association selects a "panel" of, say, a dozen names. Each party goes over this list and crosses off any man or woman whom it doesn't want. From the remainder the Association chooses either one or three arbitrators. This done, the case usually comes up next morning, and is decided within a week at most.

A theatrical case holds the record. On the hysterical last after-

(Continued on Page 6, Col. 2)

TECHNICALLY SPEAKING

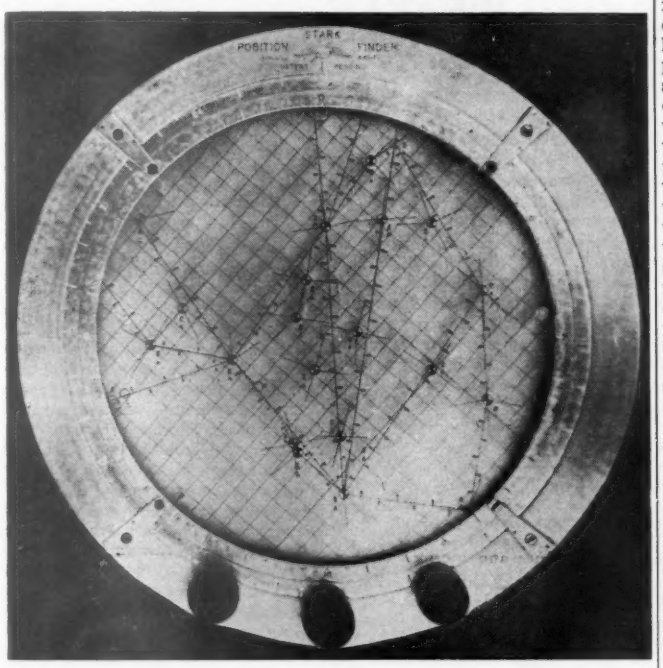
SCORES UPON SCORES OF SWITCHES, GAUGES, AND GADGETS TO CHECK

The complexity of the various instruments and controls in a multi-motored transport ship has long been the point of jibes from pilot and passenger alike. Before taking off, for instance, the pilot of a Boeing Flying Fortress must check 50 gauges, gadgets, and switches on his dash, before he even starts the engines. Then, before even starting to taxi, he has another score or so of check jobs to do. Nor when in the air does his job cease, for pilots are kept busy almost every moment with their instrument board.

Curtiss-Wright Corporation, realizing the strain on the pilot, is building a new wrinkle into their new CW-20 transport, now under construction in St. Louis. A pilot, before landing a CW-20, will merely throw a single switch marked "land." A series of lights illuminates certain switches, gauges, and gadgets, and as the pilot lowers his landing gear, lowers his flaps, cranks back his stabilizer, and so forth, the corresponding lights go out, one by one. Likewise, he can check his operations for take-off or any other operations.

* * *

VETERAN P. C. A. PILOT INVENTS NEW AIRPLANE POSITION FINDER



Pictured above is the Stark Position Finder, new airplane radio device invented by Captain Horace Stark, veteran pilot for Pennsylvania Central Airlines and a nationally-known authority on air navigation. The Position Finder is a quick method of locating the map position of the airplane on the basis of radio signals picked up by the radio automatic direction finder. It may be operated with one hand and eliminates difficult manual plotting of position.

The Position Finder employs a replaceable transparent map of the radio range and broadcast stations in an area of 520 miles in diameter, covering the route over which the pilot is flying. Twenty-two such maps cover the entire country. Beneath this map are two discs, rotatable and transparent, which bear parallel lines. The pilot tunes in two radio stations on his direction finder and transfers their compass bearings to the Position Finder by merely aligning the lined discs. Then he follows the lines which pass through these stations to the point where they intersect, and that point, seen through the map, is his exact position. There are many other uses of the instrument, but this example indicates its simplicity.

All Pennsylvania-Central Airlines' pilots use the Position Finder, and the instrument has been made available to other air lines and private pilots.

* * *

NEW "RHUMBA" WAVE IS BOON TO FLYING

Three young scientists have produced an entirely new type of radio, which should give aviation a formidable life saver, as well as aiding television and ultra-short wave transmission. This "new type radio" was made possible by the discovery of how to make electrons do the "rhumba."

At Stanford university, where the invention was announced, it was said that the machine generates extremely short waves that are both powerful and easily controlled—an impossibility with the usual ultra-short wave equipment. The waves, only about one-tenth as long as short radio waves now in use, can be concentrated and reflected like the beams of a searchlight.

A single wave, they reported, could be made so narrow—so nearly like the shape of a beam of light—that an airplane pilot could follow it with complete confidence to a blind landing under conditions which might make such practices hazardous with a broader wave.

This same narrow wave could serve with remarkable precision as an absolute altimeter—an instrument which tells the exact terrain clearance. The absolute altimeter now in use uses a broader wave, and is thus less effective.

Technically, the revolutionary instrument utilizes the fact that an electric field influences the speed of electrons. An electron stream from a cathode tube is run parallel to the invisible lines of force in an electric field. The field causes the slower electrons to speed up and the faster ones to slow down. The result is that they align themselves into waves, or "solid fronts."

These electron bunches then pass into a tank containing an electrical current of extremely high frequency. This current picks up energy from the bunched electrons and then bangs itself against a metal plate three billion times or more every second to produce the ultra-short wave.

The new instrument for producing these waves, which are ten centimeters (less than 4 inches) long, as compared with the minimum of about one meter (slightly less than 40 inches) now used by commercial air lines, was patented in the name of Stanford University and leased to the Sperry Gyroscope corporation.

It is called the Klystron, from a Greek word denoting the breaking of waves on a beach.

(Continued on Page 8, Columns 2 and 3)

Mechanic Training Is Big Problem

(Continued from Page 3)

received a great deal of practical experience during the War days. The various aircraft factories trained their own men to grow up with the industry. When the war was over, only a comparatively small percentage were able to stay in the industry, and these men constituted the nucleus of the mechanical personnel of the Army and the Navy and the air mail, which at that time operated under the Post Office Department. This personnel later, in numerous instances, went with the airlines when these organizations took over the mail from the Post Office Department, and formed the splendid group that at present are responsible for the maintenance and mechanical operation of the airlines.

Man Plus Overalls Equaled Mechanic in 1929

During the boom years from 1927 to 1929, as both the manufacturing industries and the various air lines were expanding rapidly, quite a number of mechanical personnel got into aviation by the simple method of putting on some overalls. Some of these men developed as time went on. Others were unable to accommodate themselves to this industry and were dropped. Up until this time there was no serious demand for trained men and when such men were needed they were not available. The situation was recognized by various groups throughout the country, and the result was the establishment of a number of good mechanic schools. Gradually the industry recognized the importance of such schools, and a number of them were approved by the Bureau of Air Commerce. The airlines showed their interest by inviting representatives from the schools to attend their semi-annual maintenance conference, and both the airlines and the manufacturers have responded by employing most of the graduates.

School Enrollment Creates No Reserve

The present enrollment of such schools is estimated to be between 3,000 and 4,000 young men. Most of these students are high school graduates of more than average ability, and with the proper training are capable of becoming leaders in the aviation field. These schools are the only source of supply for new men, and it is generally recognized by the aviation industry that they have done a creditable job. The schools of necessity keep in close contact with the industry as to requirements in numbers and the type of training necessary. In most instances the courses are flexible to adapt the graduates to the need of the industry, as the schools recognize that in order to stay in business they must place their graduates and to do so they must turn out men that the industry can use. This system has worked out satisfactorily and takes care of existing conditions, but creates no reservoir of trained men. However, they have become an important factor in the aviation field and any program must take them into consideration.

Even Women Could Be Used

In considering the problem of mechanics for an emergency, two phases must be considered — aircraft manufacturing and the service men needed for the Army and Navy. As regards manufacturing, any big expansion program would probably call for large orders of one type of aircraft permitting far more extensive tooling than has heretofore been attempted. Such a policy would necessitate a lesser number of experienced men, and it is felt that the great bulk of workmen could be recruited from vocational schools, non-essential industries, and even from women who could be given a short course of training. The skilled personnel would in most instances be drawn from existing personnel augmented by normal replacements.

The problem of trained men in connection with the Army and Navy is a serious one. In the first place, a much larger proportion of skilled men would be required, and these men would not only have to have a much wider range of knowledge, but would also have to be responsible to a great degree for the supervision and training of many helpers. Several plans have been suggested as a solution to the problem. One is to subsidize the existing mechanics schools under military supervision, with some sort of a definite arrangements whereby worthy young men with proper qualifications could receive training at these schools at government expense. The second plan has been the suggestion that the Army and Navy each establish one large advanced school, and that students for such advanced schools be drawn from the graduates of the commercial mechanic schools. This second plan seems to have much in its favor.

System Provides for an "Emergency"

Due to the elimination of primary training by the services, the method would be extremely economical. Only such men who were considered qualified would be recommended for the advanced instruction. Such a plan would give encouragement to the existing schools who are well divided geographically, and would serve to build up rather than to eliminate these recognized commercial establishments by providing additional incentive for enrollment. This system lends itself rapidly to expansion in time of emergency, because of the existence of numerous sound establishments geographically segregated, on which to build. Such a plan could be put into effect almost immediately, and should result in highly trained personnel that would be available for industry upon completion of the work, or who could be retained in the regular Army or Reserve and given training from time to time in order that they may keep familiar with the latest developments.

It is recognized that the entire problem is a most serious one requiring the straightest kind of thinking, and it is interesting to note that the heads of the government in Washington have recognized these facts and are showing every indication of approaching the problem in a careful and intelligent manner.

Pilot Shortage—

(Continued from Page 1)

lots now required within the time limits. The air corps training center in San Antonio, Tex., is able to train only 550 pilots annually, while the army needs at least double this number of flyers.

The program as outlined, however, provides a solution to the apparent dilemma. The army proposes to put the civilian flying schools of the country on a wartime schedule. The primary training of all cadet flyers for the next two years will be conducted at certain accredited civilian schools.

Through these schools the army expects to pass eleven classes of 370 cadets each beginning March 1, 1939. A new class will enter the schools every six weeks. The full term of each class in the primary schools will be three months, and the army expects the classes of 370 to be cut approximately in half through the failure of 50 per cent of the students to measure up to the required standards.

When the students have finished their primary training course they will be graded by army instructors. Those found to be acceptable will be sent to Randolph and Kelly fields to take up their basic military training.

Double Output Possible

The students then will spend another six months at an army training center, passing through the basic military stage at Randolph field and continuing on to the advanced school at Kelly field. Elim-

(Continued on Page 6, Col. 1)

Air Safety Board Investigation Overlooks Nothing

(Continued from Page 1)

a. m., and of Company flight dispatchers, charged with the responsibilities of directing the dispatching of the trip, to properly safeguard the flight, resulting in forced landing of the aircraft at sea due to exhausted fuel supply."

The report then lists the following as "contributing factors":

1. Failure of the pilot and Oakland dispatcher involved in clearing the trip from Medford, Oregon, to give proper consideration to possible fuel requirements of the trip, in view of adverse weather conditions as forecast by both Company and U. S. Weather Bureau meterologists.

2. Failure of the pilot and dispatcher, after the aircraft was reported on a leg of the Oakland radio range, thought by the pilot to be the northeast leg, to recognize the inconsistency of the compass headings of the aircraft with the heading required to fly the on-course signal of the northeast leg.

3. Continuation of the flight in a westerly direction for an excessive period of time beyond that which would have been required to reach Oakland from the pilot's estimated position on the northeast leg of the Oakland radio range.

4. Failure of the pilot to conserve fuel by reducing power, when the trip did not arrive at Oakland within a reasonable period of time after reaching the estimated position on the northeast leg of the Oakland radio range.

5. Failure of the Oakland dispatcher, after the passage of a period of time excessive of that required to reach Oakland from the pilot's previously estimated position on the northeast leg of the Oakland radio range, to advise the pilot to establish his position by working standard orientation procedures, and to conserve fuel by reducing power.

6. Failure of the Oakland dispatcher to notify the superintendent of flight operations of the western division of United Air Lines, of the status of the trip, within a reasonable period of time after the aircraft was reported as being on the northeast leg of the Oakland radio range. Also his failure to promptly utilize such emergency facilities as were available, and to demonstrate a reasonable degree of initiative and judgment in the presence of an obvious emergency.

7. Inadequacy of procedures established by United Air Lines on its western division for aiding aircraft under such conditions of emergency.

The air line competency ratings of the pilot and both dispatchers involved in the accident have been temporarily suspended pending the outcome of a Los Angeles hearing at which time the three men will be given an opportunity to show why their licenses should not be permanently revoked.

Those who perished in the Point Reyes accident and whose bodies subsequently were recovered were the co-pilot of the airplane, Lloyd E. Jones and S. L. Shonts, a passenger. Those not recovered from the sea, either alive or dead, were Miss Frona B. Clay, Stewardess, Philip Hart, and Ivan B. Heflebower.

Export Business Excellent

Licenses to export $25,317,327 worth of American-made military planes to Great Britain were recently issued by the State department.

The licenses represented orders for 400 planes placed with two American manufacturers several months ago, following a visit of a British military mission.

France has ordered 100 planes, for which export licenses were granted in August.

Pilot Shortage --

(Continued from Page 5)

ination of the primary training at Randolph field will make it possible for approximately 1,000 pilots to pass through the school in a year —doubling its present capacity.

"This is the sort of program that would be started immediately in the event of a major war," said Gen. Arnold. "It is wise to try out in peacetime and perfect a system which we know we will have to use in wartime.

"The cadets selected must meet our standards as to physical and mental requirements. They must also, on graduation from the civilian schools, meet our flying standards. That we will insure through tests by Army Air Corps inspectors.

"Those civilian schools selected for this program have all been accredited by the Civil Aeronautics Authority for qualifying pilots for commercial ratings. They form a necessary and valuable part of our wartime facilities and must be well supported in time of peace, otherwise they will not have the production capacity when needed most."

16 Schools to Be Used

According to air corps information, 16 civilian schools, such as the Casey Jones school in New York and the Boeing School of Aeronautics in Oakland, Cal., have been selected to give primary training. Other schools are scattered throughout the country, with at least one near Chicago.

An air corps board has visited each school and arranged for the civilian instructors to report to the San Antonio training center to take a special instructor's course. The army expects the quality of instruction to be the same in all the civilian schools.

Army primary training planes will be purchased by the civilian schools or operated under a loan arrangement worked out by the air corps. The first ships probably will be taken from Randolph field.

Mechanical Facilities Ample

"Now we come to mechanics," said Gen. Arnold. "Our mechanics' schools at Chanute field, Rantoul, Ill., and at Denver, Colo., are ample to take care of the training of the new mechanics we will need, provided we put up temporary structures to house them."

"The air corps' striking force is what is called an 'M' day unit," Gen. Arnold explained. "'M' day is mobilization day. And the statement that the air striking forces are mobilization day units means that they must stand or fall by their condition on the first day of battle."

Training of military pilots takes approximately two years. This begins with the nine months of intensive flying instruction at the air corps training center. It is then carried on in the air corps squadrons to which the pilots are assigned.

When leaving the training center in recent years young pilots seldom have flown the high performance craft now standard equipment in the tactical squadrons. Their first assignments with the tactical squadrons are familiarization flights.

First Chance at High Speed

Cadets bound for pursuit squadrons will have their first opportunities to fly the 300 mile an hour P-35 and P-36 pursuit planes when they reach their posts. Formation flying, gunnery, instrument flying, and simulated combat will follow.

Ever since the civilian air mail contract cancelations in 1934, when the army flew the mail for seven weeks and lost ten lieutenant pilots and one enlisted man, the air corps has been putting pressure on its pilots to become proficient instrument flyers. Prior to that time the purposes and benefits of instrument flying had been neglected, although the instruments necessary for blind flying had been developed by army experiments.

While pilots of the United States military services—man for man—are far better trained in in-

(Continued on Page 8, Col. 5)

Mediation Versus Extreme Methods

(Continued from Page 4)

noon before a Broadway musical show opened, a star developed a grievance. No star, no show. At least seventy-five jobs, and perhaps $50,000 in money, were involved. At four o'clock the parties agreed to arbitrate. At five fifteen they sat round a table, fighting it out. At seven the arbitrators decided in favor of the star. At eight forty-five the curtain rose on a hit.

No need of expensive expert witnesses. None of those set rules of testimony which "assume that every witness is a jackass." The arbitrator makes his own rule. The litigants can argue back and forth with each other, and usually do. Unless both sides agree to the contrary, the proceedings are secret. A firm need not fear betrayal of its condition or its methods to a competitor. Finally, it is a cheap process. The "costs of court" vary from $10 to $200 a side, according to the importance of the issue.

This new method made a quiet but furious hit with business. Arbitration under the Association has settled for good tens of thousands of disputes ranging from the discharge of a sales manager to one affair whose outcome made New York instead of London the center for the world's fur trade. More and more, business contracts began to embrace a clause providing that the American Arbitration Association should settle disputes. This is true, for example, of all contracts drawn under auspices of the Hays organization in the motion-picture business. Actors' Equity and the Dramatists' Guild of the Authors' League of America have such a provision in their standard agreements with managers.

But that is not the kind of labor which carries a dinner pail. The low fees of the Association do not pay expenses. Admirers of the principle make up the deficit. When labor appealed for help, when many an employer joined the chorus, the new president, Franklin E. Parker, Jr., and his board of directors went to their contributors for a few more dollars; and in October, 1937, they opened their doors to labor disputes of the New York district.

The work began with small cases. Business was going into another tail spin. Small shops were laying off clerks and helpers. The warring factions in labor had organized most of the employees into unions. In many cases the union leaders asserted that the layoff violated the contract with the employer. But the only way to enforce their views was a costly nuisance of a strike which might spread — and all over a single twenty-a-week job. Many of the employers were so hard hit by the recession that a strike would have folded them up. And so, by agreement, both sides appealed to the Association.

Under pledge to omit or disguise names, I have sat in on a few of them. Witnesses are heard in order; and sometimes the arbitrator orders examination and cross-examination. But the principals or their counsel fall into informal argument back and forth. It resembles a lively meeting of an executive committee rather than a court.

The smallest of these cases was one of the most picturesque. A young Italian-American woman, whom I will call Tessie, had been discharged from her factory for fighting in working hours. She countercharged that they had fired her for her union activities. She was popular in the union; handsome and fiery, she would have been a wonder on the picket line. Neither side had counsel. The boss represented himself and the union leaders protected Tessie. The boss gave her a little paternal talk. Her activities in the union were no business of his, he said; but disturbing the peace in working hours was very much his business. It disrupted the shop, made bad feeling.

"You're good at your job, Tessie," he said. "You can get another one. And this will be a lesson to you."

Doubtless the union leader had warned Tessie not to lose her temper. She did not talk back—with her voice. But the roll of her fiery eyes, the toss of her head conveyed her opinion of the boss. It was a bit for the movies. The arbitrator rendered his decision next day. Tessie stayed fired. Incidentally, in the labor cases settled so far, the score as between capital and labor is about a tie.

Then there was a more important case, hanging upon the same issue. A large Brooklyn factory signed an agreement with a new union. In January orders fell off. It laid off many operatives. The workers charged that it had violated a rule of seniority in the contract in order to lay off men and women active in the union. This case, heard before three arbitrators, dragged out a bit. One of the vital witnesses was a foreman—a good old-fashioned Yankee mechanic. He told the truth, apparently; his testimony was not all favorable to his employer.

She, whom I will call Victoria, followed him on the stand. She was one of those modern working-girls who achieves an effect of tasteful smartness with a $7.95 dress, a $1.85 hat, and a touch here and there from the ten-cent store. She radiated brisk efficiency as she told her story in crisp sentences. Fourteen years she had worked in that department. Twice she had served as pinch hitter for a sick foreman. No one had ever complained of her work. But she had joined the union. She had served on some of its committees. Three months ago the boss had laid her off.

The company's attorney took her in hand for an attempt to make her admit that she was not really efficient. Victoria lit a cigarette, crossed her legs, and fully held her own. As she swung out of the room one felt that Victoria, at least, would get back her job.

The employees of a chain-store system in the New York area went on strike. After three weeks the affair stood at deadlock. The picket lines were growing irritable. It looked like a fight to an expensive finish with incidental violence. Suddenly both sides agreed to arbitrate. That day the whole force went back to work while three arbitrators considered and settled nearly fifty causes of grievance.

Next, the Association found itself not only settling industrial rows but preventing them. The workers in a low-wage industry had organized under the C. I. O., and had forced the management to unionize the shop. But they made no agreement as to wages. When later a union demand for higher pay all around was refused, there seemed no way out but a strike. However, they agreed to arbitrate. The average wage in that factory had been $13 a week. The union demanded $20 for most of the men, $18 for the women. Taking everything into account, the arbitrators proposed a $14 minimum wage for the men, $13 for the women, a raise of $2 for all who were receiving wages above those minima. Both sides agreed; the decision made the terms binding in law.

Then labor and management in a slipper factory got into a peculiar jam. Sewing on the soles was piecework and was paid for on an established scale. When the company changed from composition to leather soles, the workmen kicked. The process took longer, they said; therefore they earned less money. The company denied this. The same story—a strike in the offing, an agreement to arbitrate. In this case, two experts, one named by each side, sat in the board with a third man. They decided that the union was fair in its contention and ordered a new scale. By now the American Arbitration Association had heard about eighty cases in Greater New York. The experiment had proved a success. They had advertised as little as possible. But the news leaked out nevertheless. And in the late summer of 1937 New England appealed not only for settlement of an important conflict but for judgment on still another principle.

A big Boston factory has two equally important subsidiary plants, one in New Jersey, the other in the Middle West. Last spring orders began falling off. The company decreed a ten per cent cut in wages. The union threatened a strike. "All right," replied the company; "it's that or bankruptcy and no wage at all." In two of the plants the men walked out. The company simply closed them down. After three weeks both sides appealed to the Association. Thereupon the two plants reopened.

Usually a dispute settled by the Association is all washed up within a week. But in this case a new point arose, and both sides asked for a recess in order to prepare briefs. As I write, it is not yet settled. Meantime, however, the factories are producing and the employees are accepting the reduced wages in the expectation that the management will make up the difference.

Watch this movement. It is likely to grow. It is common sense. It is also common honesty. The racketeer and the Communistic labor leader will not welcome arbitration. Neither will the crooked employer and the oppressor of labor. But most American employers really want to be decent; and most labor leaders are working sincerely for the interests of their followers.

(The End)

AIR HERO

CAPT. H. W. SUSOTT

DON'T WEAKEN —THEY DIDN'T

In a fast moving world wherein people are quick to laud and quicker to criticize, let us pause for a moment to focus the spotlight on an incident deserving of commendable recognition.

Flying on their regular run on Feb. 22, 1939, Captain H. W. Susott and First Officer C. C. Mitchell were maneuvering to land their swift sleek craft at the city of magnificent spaces and unlimited rumors—Washington, D. C. Captain Susott commanded, "Gear, down." First Officer Mitchell sprang into action. Levers were pulled, switches were switched, push-buttons were pushed, and toggle switches were vigorously toggled, but nothing happened — that is, to the landing gear! However, something did happen on the dash board. A tiny red warning light appeared and immediately enlarged to television dial proportions and the visions it reflected were such as to make even nerves of steel do the rhumba. But in a situation of this kind, the code of an air line pilot is "Don't weaken."

Oh, you are anxious to know what happened? You don't like to be kept in suspense, do you? Well—the good Captain and his trusted First Officer calmly, coolly and collectively, sized up the situation and made a correct decision. They flew their craft in a north-easterly direction to the Newark airport where a 28-miles-per-hour surface wind was blowing and skillfully stall-glided their plane to a perfect landing. The ground crews were there with all of their emergency equipment unlimbered, expecting the worst, but there was no need for them, because another epoch in the history of safe flying had been written in the face of overwhelming and nerve-racking odds.

Poquette Wires "No News, All Is Confusion"

By T. S. POQUETTE
Council No. 3, TWA
Kansas City, Mo.

This month the writer feels like the cub reporter in that classic story of the newspaper trade, who was sent to the train wreck and wired back to his paper: "No news, all is confusion."

An indication of the trend of affairs can be intimated by saying that the contract has been presented. This should keep many minds occupied during the dull winter months.

This column had been seriously considering a careful deliniation of the international political situation but since Sheridan grabbed off this plum without consulting any of the other accepted authorities, the writer finds it necessary to hunt further afield for a topic suitable to my peculiar style of exposition. Consequently the squeeze mentioned above has forced the writer (in order to keep the competitive pace) to discuss in an early issue "WORLD GENESIS IN THE LIGHT OF THE PLANTESIMAL AND NEBULAR HYPOTHESIS." So as not to limit other ambitious columnists the writer hereby agrees to confine the monograph to a consideration only of those cosmological factors likely to be of interest to astronomers, pilots and the cosmic-minded laity. This scientific generosity is grounded in the recognition of the principle of "devil take the hindmost."

Original and Sparkling?

I might mention at this time that this material will all be original and sparkling with a particular radiance characteristic of new thought. Should this not be sufficient to keep down dissenting and adverse criticism, the law of parsimony will be invoked which says; "what is well explained on one ground shall not be explained on another."

In this virtuous manner it is possible for the peaceful and easy-going newsletter writer to hold up his head when the A. L. P. A. news comes out, besides being a great antidote for the ego shattering issue of last month.

Seniority Worries

These days find many co-pilots thumbing thoughtfully through the co-pilots seniority list, figuring backward and forward, in an earnest endeavor to find their position in space and time, and, incidentally, their check-out possibilities. All of which goes to prove that ambition still runs rife in the land.

As I have said before, I cast around in my mind for fresh material but find that Sheridan covered it all last month. Nothing is sacred anymore, he even went so far as to expose T. W. A.'s deficit, which reminds me of the poker player who said, "that by very clever playing he had kept his losses to a minimum."

Curtis Plane Dives 575 m.p.h.

A Curtis Hawk 75, pursuit monoplane being built for the French government, recently dived 575 miles per hour with test pilot H. L. Child at the controls.

Child said that after the flight he felt no ill effects, even though his speed was presumably the fastest ever traveled by man. He dived 9,000 feet, and then pulled out slowly.

The plane is identical with the P-36 plane in the U. S. air force.

CAA Wants Ear In Cavalier Crash Inquiry

The Civil Aeronautics Authority recently announced that it was requesting permission for an observer to attend any British inquiry into the loss of the Cavalier.

Under the provisions of the Air Commerce Act of 1926, the Secretary of Commerce issued a permit for the operation of an air service into the United States to Imperial Airways on April 17, 1937, pursuant to the terms of an agreement between this Government and the Governments of Great Britain, Ireland, and Canada, which provided for reciprocal services by United States and British companies between Bermuda and the United States. This permit was issued for a period of 15 years and is revocable only upon two years' notice. The British Government issued a permit to Pan American Airways to operate an air service to Bermuda.

Britain Responsible for British Craft

Under the terms of the agreement it was required that the aircraft employed by British operators should meet the airworthiness requirements of the British Government, and that aircraft employed by American operators should meet the airworthiness requirements of the United States Government. The effect of this arrangement is that the British Aeronautical Authorities are responsible for the inspection and safety of British aircraft, and the United States Aeronautical Authorities are responsible for inspection and safety of American aircraft. Thus, the British have delegated to the United States responsibility for the safety of their nationals in American operated aircraft and the United States has delegated to the British the responsibility for the safety of Americans in British operated aircraft. The aircraft of Imperial Airways are subject to the United States air traffic rules, customs, immigration and similar regulations within the territorial (3-mile) limits of the United States.

CAA Will Set Safety Standards

The Civil Aeronautics Act of 1938 empowers the Civil Aeronautics Authority to issue permits to foreign air carriers and to prescribe the terms, conditions, and limitations of such permits. These terms, conditions, and limitations may include such safety standards as the Authority may deem essential for the safeguarding of the American traveling public.

Imperial Airways is entitled to continue operation under the permit issued to it by the Secretary of Commerce in accordance with the Air Commerce Act of 1926, until such time as the Authority shall issue a permit under the provisions of the Civil Aeronautics Act of 1938, which requires the issuance of a new permit solely upon proof that a former permit is outstanding.

Authority Seeks Technical Information

Since the Cavalier was an aircraft of British registry involved in an accident outside the territorial limits of the United States, the accident investigation will be conducted by British Authorities. In order that the technical staff of the Authority may be completely informed of existing conditions on the Bermuda service in connection with the consideration of the issuance of a new operating permit to Imperial Airways, permission will be granted for a Civil Aeronautics Authority observer to attend the British inquiry. What restrictive actions will be taken by the CAA are not yet known.

Allison—

(Continued from Page 2)

him the proper environment and incidentally stop the howls, he promptly turned everything loose and gave Stormy both barrels. Imagine the far-away look in Stormy's eye!

We then placed him back in his box and started feeding him lots of altitude. At nine thousand he fell down. At eleven he stopped howling. At 13,000 his bowel action ceased and that's where we kept him. But half-way to Newark we had to descend for a landing and his auxilliary unit started functioning again. With the windshield de-icers on, and the smell of alcohol blended with "laphound" special, we managed to get a fairly agreeable combination. Something like "Nigger perfume" Stormy decided.

Rader De-Icer Now Available

In case some of you boys living north of the Mason-Dixon line haven't heard the glad tidings, I am most happy to broadcast that your worries are over. Next year you can sit back in the leather cushions and smile at the "icing conditions" along the way. Neither will you have to hump up and bite the cushions every time a slab of ice leaves a prop and goes—whackety-bang-boom. There won't be any such!

Some of you captains, who start griping for more time with the first frost and get white headed worrying over a way to inveigle one of your brother pilots out of a run, can stay home to rest on your day off and plan on "full time" for the month without feeling that you have to hang around the field and chisel the poor little "reserve pilot" out of his Xmas ferry or extra section.

It is all due to the ingenious labor of one of our saintly southern pilots who has invented a new type of de-icer. He hasn't announced the details, but from some of his close friends I understand it is really something special and will be known as the "Rader-de-icer." I haven't seen it yet but from descriptions of its work I can tell you something of its performance.

This new de-icer, I understand, will fit any kind of wing, strut or horn. It will enable you to push on through when normally you would have to wait for more favorable conditions, and will keep you working at a much older age. Beside being a de-icer and general utility instrument it can also be used as a bob-sled with startling results.

Further description is lacking due to shortage of details, but if you'll write to Captain Homer Rader, American Airlines, Dallas, Texas, he will be glad to send you full information and a blue print which will enable you, with the aid of your wife and her knitting ability, to construct one for home use.

BEHNCKE NAMED TO EDITORIAL BOARD

David L. Behncke, president of the ALPA, was named as one of the four members of the new Editorial Board of the Journal of Air Law and Commerce.

The publication deals with the legal aspects of aviation, and the business problems connected with the industry.

Editor-in-chief of the Journal is Howard C. Knotts, long active in aviation, and known as an authority on aviation law. Assisting him are John H. Wigmore, Dean-Emeritus of the Northwestern University School of Law, and Fred D. Fagg, Jr., former Director of Air Commerce, Department of Commerce, and now Dean, Northwestern University School of Commerce.

The board on which Mr. Behncke is serving decides the policy of each issue at regular meetings. He will have an opportunity to present the viewpoint of all workers and especially the side of the pilots, in matters of legal and commercial importance.

Roof-Top Mail Service Authorized

The United States Post Office Department is about to embark on the world's first regular autogiro roof-top mail service.

Bids Opened Jan. 17

Postmaster General James A. Farley announced last night that bids were requested for such a service, the advertisement calling for the operation of an experimental air mail route with rotary-wing aircraft between the roof-top of the post office building at Philadelphia, Pennsylvania, and the airport serving that city. Bids for this service were opened at 12 o'clock noon, January 17, 1939, in the office of W. W. Howes, First Assistant Postmaster General.

Provision for this autogiro service was carried in the Act of Congress of April 15, 1938, which set forth in part:

"The Postmaster General is authorized under such appropriate rules and regulations as he may prescribe to provide for and supervise experimental services in connection with the transportation of mail by air, including the transportation of mail by autogiro aircraft shuttle service between outlying airports and central city areas, and including the utilization of patented articles and equipment upon payment of just compensation therefor with the object of further developing safety, efficiency and economy in air mail transportation, collection and delivery."

Far-Sighted Philadelphia

The Philadelphia post office building was selected for the purpose because its roof was constructed for autogiro service. The experimental service can be conducted on this roof-top without the necessity of any expense for superstructure. Other buildings considered would have required either superstructure or a change in the ventilating system.

Albany Airport Closed To Transport Ships

Persistent complaints of the air line pilots using the Albany airport resulted in the Civil Aeronautics Authority's temporarily closing this field to transport ships. Action was taken after the CAA inspectors confirmed the pilots' complaints that the runways and approaches were in hazardous condition.

Recent inspection showed that the runways have settled so that they do not drain properly, thus holding water in puddles, and that the ground adjacent to them is rough and soft in thawing weather. As such conditions are likely to be encountered at this airport from this season on, the Authority decided that, in the interest of safety, operations should immediately be discontinued until the runways and surroundings are improved.

Correspondence with Mayor Thatcher shows that city officials have been endeavoring for more than a year to arrange for the clearing of wooded areas surrounding the airport and for the removal of the 125-foot water tower close to the west end of the longest or east-west runway, but that this has not yet been accomplished. The inspector's report recommends hard surfacing and lengthening the 2200 by 150 foot north-south runway and the removal of trees outside the airport, the lengthening and better surfacing of the 2500 by 100 foot east-west runway and the removal of the 125-foot tower to the west of it, and the lengthening of the 2350 by 100 foot northwest-southeast runway.

THE NOSEY BLIGHTER

An R. A. F. Fairey battle plane committed a most embarrassing *faux pas* recently at Liverpool Airport, when, with the closest blasted Englishman 400 yards away, it kicked over its motor in a most uncalled-for fashion and began taxiing.

After 400 yards and several seconds, the plane ingloriously pushed its nose through the wall of the airport clubhouse.

Just who was the most shocked by the plane's uncivilized behavior is hard to say.

Perhaps it was the mechanic, who, after finishing work on the ship, had walked clear of the airplane. There he turned to triumphantly survey his work, only to find that the object of his labors had gone with the wind.

Or perhaps, it was one J. Cuthbertson, secretary of the Liverpool and District Aero Club, who had just entered his office to do a bit of work when he suddenly found himself in the presence of a bloomin' airplane that had entered in a most uncouth fashion without even knocking. No one was hurt, but there was no quibble but that the affair was deucedly shocking.

* * *

"(HIC) YOU DON'T SHAY SHO (HIC-HIC)"

Recent experiments have disclosed that altitude increases the effects of alcohol many times over, viz: Take one Side Car and then get yourself a trip in an aeroplane and the effect will be the same as many Side Cars. Why buy many Side Cars to get the proper glow on the ground when you can buy one and do so much better by mixing it with a little altitude?

Ah—! But there is always a catch in this old life of ours. Flying and alcohol don't mix, and they won't even let you get in a modern airliner if you've been drinking. Too bad—Too bad! Another wonderful revelation rendered O-O.

* * *

HOW TO BEAT THE HORSES IN ONE EASY LESSON

Dame Fortune smiles on some, but merely snickers at others. The editor and the nationally-known AIR LINE PILOT correspondent, Watson T. Babbitt, have much in common. They will bet on anything, but they never win. Recently, Babbitt penned a note on the face of his first dues notice, which read as follows:

"Dave, please note, I've been trying for the past 30 days to raise this dues money the easy way, but as is quite obvious from the enclosed fistful of cancelled race track stubs, I received no cooperation from the horses or dogs." (Editor's note: Ah, my dear Watson, too bad, too bad, very sad. Possibly the system we are using is wrong. Viz.: Instead of spending many weary hours placing bets, figuring out racing schedules, standing in the sun at race tracks, only to see our favorites start skidding on the home stretch, we should take up crystal gazing. Then all we would have to do would be to lift the velvet off the crystal, polish it a bit, and therein we would see what spavined express, or lop-eared rack of bones, actually romps over the line in tomorrow's race, and act accordingly, and all of this in the cool and comforting confines of our own castles.)

* * *

ALL THINGS COME TO THOSE WHO WAIT

"I hope you have a very successful trip," a ticket agent recently expressed to a passenger as he handed him his ticket.

"I doubt it," the elderly looking man snorted. "This is my third trip with this line and I've taken out an insurance policy for each trip. So far nothing has happened to make the trips uneventful."

"Well, don't worry," the agent responded, "keep trying and you'll hit the jack-pot some day."

—*Wayne Allison.*

* * *

THERE, LITTLE GUAM, DON'T CRY, YOU'LL GET A P. O. BY AND BY

(From the column "Baer Facts," written by Arthur "Bugs" Baer.)

Guam didn't get any Government money and knows how Maine and Vermont feel.

But we're spending $48,000,000 on ten other islands. That's a good investment because it's all waterfront property.

A fellow got up in Congress and wanted to know if we're Americans or Japanese. He was cheered to the echo which had a slightly Oriental accent.

Guam is off the payroll now but expects to do all right just as soon as it can change the $5,000,000 fortifications bill into a $17,000,000 white marble postoffice. If you want to choke cats, you must buy a lot of cream.

—*Courtesy King Features Syndicate.*

* * *

FEATHER YOUR WINGS

She was comin' round the mountain when she crashed;
She was wingin' down the valley when she smashed.
Oh the pilot and the hostess
They are now a pair of ghostes
She was cruisin' down the gully when she bashed.

She was roarin' mighty handsome as she came;
She was flyin' mighty spry 'till she went lame.
Then she pulled some kind of flurry
And the ground jumped in a hurry
Now they're working night and day to fix the blame.

She had ice upon her wings, so we are told,
And the pilot fell unconscious in the cold;
But the claim they make the mostus,
He was flirtin' with the hostess.
They were billin' and a-cooin' when she rolled.

It's probably kinda late to worry now.
The liner is a wreck no matter how.
You can't bust an egg, then grade it
So's you'll know the hen what laid it.
She was comin' round the mountain anyhow.

When it's time to fly the Lord will point the way.
He'll fix wings upon your fuselage to stay.
When you leave this earth the change'll
Probably be a ghost or angel,
But don't come round no mountains that-a-way!

—*Anonymous.*

* * *

WHERE?

Passenger: Is this plane safe?
Pilot: Yes, safest on earth!

—*Grit.*

Effects of Substratosphere Flying Studied By Air Doctors

Ten outstanding military and civilian flight surgeons of this country and Canada gathered at the Civil Aeronautics Authority's Medical Science Station at Kansas City, Mo., on January 24 and 25 for a two-day round table conference on problems of mutual interest in their profession. They worked on a co-ordinated program with which duplication of effort should be avoided.

Passenger Comfort Studied

The conference devoted particular attention to the discussion of passenger comfort, a comparatively new subject in the field of aviation medicine. Special emphasis was given to the use of oxygen in the cabins of the present airplanes and to possible physical reactions to flying in the supercharged cabins of the new type of airliners which are nearly ready for flight tests in the higher altitudes.

Probably the first passenger transport to go into general service with supercharged cabin equipment will be the Boeing 307, four-engined land transport, which is undergoing testing at Seattle, Washington. In this particular connection, Dr. Miller plans to conduct a series of experimental tests with the airplane from the standpoint of psychological and neuro-muscular reactions of both pilots and passengers.

Comfort at 17,500 Feet

The system to be used in this new transport will maintain the same air pressure in the cabin normally encountered at the comfort level of 8,000 feet up to a height of 14,600 feet. At higher altitudes, the same pressure ratio will be maintained. For instance, when flying at 17,500 feet, pressure within the cabin will be equal to the normal pressure encountered at an altitude of 11,000 feet which is well within the comfort level for non-supercharged aircraft.

The conference also heard reports on the work being done in the Army flight laboratories at Wright and Randolph Fields, as well as in air line research. Colonel A. D. Tuttle, Medical Adviser of United Air Lines and former Commandant of the Army Flight Surgeons' School at Randolph School at Randolph Field, Texas, gave a resume of the studies he has conducted on airsickness and the use of oxygen in cabin airplanes.

Stewart—

(Continued from Page 3)

sionally. This is, I think, the only airport in the United States where the cone of silence is in one state and the airport is in another. The pheasants showed upon Swan Island, our Portland base, the other day. They have been away since hunting season. The old rooster with the game leg is one, and there are some hens.

Clarence Gets a Little Savage

Clarence Savage, with some indispensable aid, had a daughter, Carolyn, born February 8th, weight 7.1 pounds.

Charley Peeples recently resigned to take a job in Chicago. Charley was always good to his co-pilot; usually good for a five spot every time Joe Louis had a fight, and is too well known and well liked everywhere to require further comment. Charley had 16,900 hours when he left Portland.

Seth Rhenstrom moved to Seattle. Hi Broiles got a wife, and a new run, in Salt Lake. John Massion also got teamed up, moved, and now enjoys the shuttle between Cheyenne and Denver. Willie Seaman has been here over a month, coming to this division from the Cheyenne-Salt Lake division.

PANAGRA CONFERENCE—

(Continued from Page 1)

agra pilots' employment contract committee was not only meeting with Pangra officials, but was also meeting with the Pan American officials in these negotiations to establish a working agreement on Panagra. Another unforeseen happening that also had some retarding effect, was the resignation of one of the company's principal conferees, Mr. John D. MacGregor, vice-president and general manager, followed by his replacement by Mr. Harold J. Roig, approximately two weeks after the conferences began.

So Near and Yet So Far

Despite all of these retarding disturbances, much progress was made and when the conference temporarily adjourned on February 28th, only four or five unsettled questions stood in the way of a complete contract. These problems will be attacked with renewed vigor when the meetings are resumed on March 13, at which time it is hoped that all disputed questions can be ironed out. But if this proves to be impossible, the services of the Mediation Board will be invoked.

Employment contract conferences are now in progress on five lines. Meetings are being held at present on American Airlines with Mediator Bickers of the National Mediation Board assisting in an effort to bring the Association and the company together on the few remaining points in dispute. Good progress is being made. In addition to this conference and the Panagra meetings, employment contract conferences have been scheduled to reconvene with Braniff Airways on March 20th in Dallas. Conferences are also tentatively scheduled to continue on Transcontinental and Western Air during the first week in April, one meeting having already been held on this line on March 8th in Kansas City. Similar meetings will shortly begin on Penn-Central in Pittsburgh, and the pilots in a number of other lines are busy preparing their employment agreements for presentation to their respective companies. The principal stumbling block centers around the question of the finality of the Adjustment Board. This subject is discussed extensively in a front page story in this issue.

Strike Date—

(Continued from Page 3)

The Mediation Board reopened negotiations on January 5th, 1939, and continued until January 13, at which time the Mediation Board urged both parties to submit the issues remaining in dispute to a Board of Arbitration. The Association immediately replied to this request, stating that it would accept arbitration as a means of a peaceful settlement. After a month of deliberation on the part of the Company, the Mediation Board called together both parties to clear up certain issues raised by the company relative to arbitration. Consequently, on February 21, the Board again urged both parties to agree to enter into an arbitration agreement. The Association notified the Board of its willingness to enter into this agreement. On March 13th, notification was received from the management of Eastern Air Lines that they would not enter into an agreement to arbitrate the remaining issues in dispute, consisting chiefly of matters of wages.

Bound to Peace for 30 Days

In offering arbitration to both parties, following an unsuccessful attempt to settle the issues by mediatory efforts, the Mediation Board has fulfilled its final required action. The employees are now bound to maintain peace for a period of 30 days, during which time the company cannot change rates of pay, rules, working conditions, or established practices in effect prior to the time the dispute arose.

Financially, 1938 was a banner year for Eastern Air Lines. Their annual report showed a net profit of $345,249 after deducting $691,942 for depreciation and amortization, and approximately $96,000 for federal income taxes.

The Air Line Mechanics Association has, up to this time, signed seven employment contracts. In some of these negotiations the services of the Mediation Board were invoked, but in all cases, with the exception of Eastern Air Lines, contract negotiations were peacefully concluded. On January 25th, the ALMA signed an amended agreement with the American Airlines which provided more favorable rules and working conditions, and wages in excess to those proposed by Captain E. V. Rickenbacker during negotiations on the EAL agreement.

TECHNICALLY SPEAKING—

(Continued from Page 5)

EARTH INDUCTOR TYPE COMPASS

The Washington Institute of Technology has announced a new compass of the earth inductor type, which does what no other compass will do.

Using the principle of the coil rotating in the earth's magnetic field, the Washington Institute has built an earth indicator compass which is applicable for the first time to boat use, and which reduces the faults that have prevented its general use in aircraft. The new compass is said to return to a proper reading in less than half a second after pitching, rolling, banking, and in bumpy air.

The earth inductor type of compass was first used in the air in 1927 and 1928, when Lindbergh and many other famous pilots were guided to their destinations by this instrument. In the case of distance fliers, however, all the flying was in heavily loaded planes in straight, steady flight, with no banking or maneuvering such as is required in routine service. * * *

DIRECTION INDICATOR (COMPASS TO YOU)

Paul Kollsman's new magnetic compass is so radically different from all previous designs that its makers do not even call it a compass, naming it instead, a "direction indicator."

Read like any other instrument, the new instrument indicates directions by the movement of a pointer on a dial. The dial, graduated to 2 inch divisions, corresponds to the compass rose as printed on all aircraft charts. The pointer shows the direction of heading of the airplane in relation to Magnetic North.

By turning a knob at the bottom of the dial, a reference index with cooperating parallel lines can be set to any desired heading. The compass is fitted with a Kollsman Poly-Plane Compensator, which is adjusted by turning the small screws at each side of the main control knob. * * *

AMERICAN USING NEW POSITION FINDER

A new type position finding protractor, which is proving invaluable as a supplement to the other methods of aerial navigation, is now standard equipment aboard American Airlines Flagships. Its principle of operation is based upon readings taken from direction finder loop bearings upon radio signals.

The protractor, which greatly simplifies the plotting of a "fix," or position of the plane in flight, is the invention of Glenn E. Markt, assistant airways engineer for American Airlines.

Complete, the unit consists of a special map board, maps, and protractor. The maps are standard, showing American's routes, indicating radio ranges, broadcast stations, and cities. These maps are mounted on spools on the fourteen inch square map board, and operate similarly to the film transport mechanism of a roll film camera. With the map itself scaled to dimensions of one inch for each 24 miles, an area of over 100,000 square miles is visible at all times upon the board. As the plane progresses, the spools upon which these maps are fastened are turned so that at all times the area over which the plane is flying is visible.

Northrop—

(Continued from Page 2)

Satan, before I really get mad and start cutting elsewhere." At this, like any sensible bull, Ferdinand became quiet. Pretty soon, Jimmy is through chopping and hacking, and with a sigh of satisfaction gets up from Ferdinand, undoes the tangle of ropes, and in a cheery tone, says, "Come on, old boy, dont' take it so hard, there is still a lot to be done, and none of those cows are going to notice your horns are gone."

Still Ferdinand lays there. By this time Jimmy begins to think poor Ferdinand has fainted, and rushes to the house for smelling salts. Still Ferdinand doesn't move. Jimmy is now frantic. Old Doctor Denut is still leaning against the door jamb. Jimmy hollers almost as loud as Ferdinand did, and says, "Don't stand around here picking your teeth, do something."

Old Doc just looks out on the horizon, shifts his cud from one side to the other, and says, "For ten bucks cash money, I will tell you what is the matter with old Ferdinand, Jimmy."

"OK, OK," says Jim, "Here's the ten bucks."

And This Is No Bull

"Well," says Doc, getting into his buggy, and far enough away from Jimmy so that no bodily harm could come to him, "Ferdinand is just plain dead, you choked him to death."

Jimmy is now sadly serving six dollar, A-1 steaks to all who enter his hospitable doors. But after-dinner conversation is definitely not anything concerning bulls.

The Air Line Pilots To the Rescue

Full and immediate co-operation on the part of the air line pilot with the President's re-armament program, is certainly gratifying to see. Even those among the "Great Unwashed" (the uncouth individuals whom we hide on the Western division DT to MK-CG) are willing to do their part. In blaring headlines under a half page cut, we find the pictures of no less important individuals than, in the order named, General Clyde Paddack, Admiral (Rhino) Chick Weiblen, Commander Misket, and Captain John Tilton. Standing in the background we noticed Major-General Archie Leighton, and a few of the other famous experts, who, with their usual modesty, were crowded out of the picture by the "Gold Braid."

Ranking Officers, Or Rank Officers?

Dashing to the Lockheed 12, which the company always keeps on hand for the use of the pilots, I grabbed First Officers Van Alstyne and McQuigg (the efficiency boys) since the weather was bad, and I thought I ought to have a pilot along. Then we "dashed generally" in the direction of Milwaukee. However, we did not leave before I had contacted the War and Navy departments, and had gotten permission to interview these high-ranking officers. Both departments said something about "rank," but being in a hurry, I couldn't quite catch their comments. Needless to say, I had no trouble locating the General Staff at the Woman's Aid Society, where they were enjoying a free meal, and being of service to the ladies in whatever manner they were able. All were happy except lowly Captain Tilton. The boys are not speaking to him because he disgraced them by being only a CAPTAIN.

The Glory of It All

Between mouthfuls of fried chicken and strawberry shortcake, we managed to get a statement from Paddack, pardon me, General Paddack, which ran something to the effect, "If you are going to be lousy, be good and lousy." Admiral Weiblen was found characteristically holding a chicken breast in one hand, a leg with the other. His statement was much to the point, being "Those who know me don't need an explanation; those who don't, don't count."

Pilot Shortage --

(Continued from Page 6)

strument flying than the pilots of any other nation, the air corps chiefs have seen the standard set by the commercial air lines of this country and have been emphasizing precision flying of this type more than ever in recent years.

Air Line Pilots Excel

The army has some pilots who are the equals of any air line flyers, but the air corps is the first to admit that, as a class, the air line pilots are without equals for all weather operations.

This is true for many reasons. First, the air lines operate twin-motored equipment with relatively long flying ranges. Second, the requirements of scheduled flying have led to the development of a precise weather forecasting service, maintained by the individual lines. Third, the air line pilots, flying from 85 to 100 hours a month for many years, build up more experience in the air than any other airmen.

There are more than 300 air line pilots in the United States with 10,000 or more hours in the air. Most of the first pilots working for the air lines have 6,000 to 7,000 hours' flying time, while few army pilots ever build up such aerial experience. Their flying is of a more concentrated type, and 3,000 hours is a lot of logtime for an army pilot.

Much of the army's equipment consists of single-motored airplanes. Much of the latest equipment lands at from 70 to 90 miles an hour. These are high speeds for landing, and such airplanes do not lend themselves to bad weather flying. Furthermore, pilots hesitate to bore on through bad weather when they are flying with only one motor.

Multi-engined Ships Safer

If that one engine fails they must risk a forced landing in a high speed plane in bad visibility. The air lines with multi-engined equipment are not ridden by the fears of immediate descent if one engine should fail.

All this adds up to the fact that the commercial air line pilots of the country consistently and nonchalantly fly in types of weather that military pilots shun.. And because of the constant use of instruments in flight the commercial air line pilots have become masters of an art that requires absolute precision and constant practice.

Some of the factors mentioned here are changing. The army, to an ever increasing extent, is shifting to multi-engined airplanes and to machines that are easier to land. When these airplanes have been in hands of service squadrons for a period of time, the general level of proficiency in instrument flying inevitably will rise.

One factor that will not change, however, is the general youth of the personnel in tactical squadrons. The army is constantly receiving an influx of young pilots. As time passes and they become more experienced, a considerable percentage of these pilots take commercial air line jobs.

In the future the percentage of commercial pilots taken from the army probably will diminish. The army is seeking pilots who will make their careers in the army and not in civilian life. As the age and experience of the army pilots increase, so will the level of ability rise.

—Courtesy Chicago Tribune.

With bowed head we returned to Washington where, being among gentlemen again, we felt more at home. We signed a petition to have Mr. Harry Smith resign his commission from the Reserve Corps, which is only that of Lieutenant, so that it will not bring disgrace to the rest of the line.